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Spousal age gaps in Northern Belgium: early 19th to early 20th century

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# Abstract

This paper examines the evolution of spousal age differences in first and high order marriages in Northern Belgium from early 19th to early 20th century (1800-1913). We examine socio-economic, demographic and geographic profiles of (re)married couples, comparing them across marriage order and gender. With presence of industrialization, urbanization, and to some extent, secularization, Western European Malthusian marriage pattern (EMP) was challenged by observing declining ages at first marriage and decreasing proportions never married. Partner selection criteria changed from instrumental to a more emotional view of marriage. Such development is reflected in the rise of age homogamy patterns for first marriages in Northern Belgium (Matsuo & Matthijs 2019). This paper extends the analysis of spousal age gaps to the remarried. Analysis is based on civil marriage registers in West Flanders (total 414,277 units), Flemish Brabant and Brussels capital region (combined total 600,250 units). Descriptive statistics and hierarchical regression models are applied to examine determinants of spousal age gaps. Unlike age homogamy patterns among the first marriages in the second half of 19<sup>th</sup> century, we expect higher proportions of age heterogamy among the remarried. Age homogamy for first marriage was followed more in cities but least in religious municipalities and among bridegroom farmers. We expect more age heterogamy and older bridegroom relationship among the remarried, because of varying selection and marriage opportunities. Our paper aims to highlight the interplay of socio-economic and culture determinants on spousal age gaps by marriage order and gender in Northern Belgium.

**Key words:** gender, cultural change, marriage selection, first and high order marriages, European Marriage Pattern

## 1. Introduction

Spousal age differences have important implications for the life course of couples, families, and the following generations (Kolk 2015, original in Bozon 1991). They are a good proxy to examine (re)marriage markets, partnership pathways, and gender (in)equality within and between couples and households. Research on spousal age gaps are extensively examining the patterns and roles of bride's and bridegroom's socio-economic and cultural characteristics, as well as the geographical location of marriage. However, these spousal age gap issues are less conclusive by marriage order, and furthermore, on socio-economic and demographic determinants in different contexts (Berardo et al 1993, Ni Bhrolchàin 2005). In our paper, we intend to fill this gap partly, by extending our analysis to remarriage and its determinants by marriage order and gender. Three distinctive socio-economic and demographic profiles of population are chosen: West Flanders, Flemish Brabant (contemporary geographical description) and Brussels capital during the long 19<sup>th</sup> century (1800-1913).

### 2. Research framework and hypothesis

Spousal age gaps are mainly explained by bridegroom older relationships. This predominant idea is fed by evolutionary biological theory (Buss 1989) and economic theory (Barnstorm & Bagnoli 1993). This bridegroom older relationship is generally supported by gender specific role on reproduction (brides) on one hand, and economic consideration (bridegrooms) on the other hand. Social norms and gender roles also support this relationship because both women and men can benefit from following such societal expectations (Ni Bhrolchàin 2005). However, Hajnal's European Marriage Pattern (EMP) hypothesis (1965) seem to challenge this idea where couples marry relatively late (e.g. 25-35) with relative similar ages of spouses (i.e. in most cases, bridegrooms were less than 2 years older than brides) and non-negligible unmarried proportions (e.g. 10-20%).

In Western Europe, this balance started to shift due to societal changes related to industrialization, urbanization and to some extent, secularization during the 19<sup>th</sup> century (Lesthaeghe 1977). These patterns were also observed with regional variations (Engelen & Wolf 2005). These changes of EMP features are additionally influenced by changing qualities of relationship between men and women, transforming from a more instrumental to a more emotional view of marriage (Matthijs 2003). Industrialization provided new economic opportunities in urban areas from mid-19<sup>th</sup> century on, enabling young aged to establish new independent households. The EMP eroded mostly in Western European countries where proportion never married decreased, and mean ages at first marriage for brides and bridegrooms declined to their age mid-20s. Consequently, partnership

selection process leading to marriage has changed substantially, reflecting the bride's and bridegroom's gender roles (Matthijs 2002).

In this context, it is useful to reexamine spousal age differences, testing this to Northern Belgium, since these trends are likely to differ by marriage order, age at marriage and a number of socio-economic characteristics (e.g. native/non-native status, social class, level of compliances with religious rules, geographical location of marriage) (Van de Putte et al 2009, van Poppel et al 2001) and historical periods. Geographical differences within Northern Belgium are reflected in more urbanized and higher proportion of high and semi-skilled occupations of Flemish Brabant and Brussels capital population on one hand, and a more rural and higher proportions of farmers and lower skilled occupations in West Flanders on the other hand. Spousal age gap is a proxy for the nature of relationship between bride and bridegroom, and therefore age homogamy indicates high levels of gender equality, whereas age heterogamy does not. In this context, understanding spousal age gaps by marriage order are expected to shed lights on consequences of the erosion of the EMP. This study aims to provide empirical evidence of the age gaps also for the remarried, inspired by the fact that the partner selection and marriage opportunities are different and changed substantially over the course of the second half of 19<sup>th</sup> century.

## **Research hypotheses**

Two hypotheses are formulated to test our assumptions.

(1) We expect spousal age gaps changing from age heterogamy (i.e. spousal age differences are more than 2 years where bridegrooms are mostly older than brides) to age homogamy (i.e. spousal age differences are less than 2 years) among newlywed couples during the second half of 19<sup>th</sup> to early 20<sup>th</sup> century. We expect that the speed of this change is driven by decreasing proportion of older bridegroom's marriage than the one for older bride's marriages (H1.1). We do not expect the same pattern for high order marriages, where age homogamy patterns are assumed less. Because of different levels of socio-economic (e.g. industrialization, urbanization) and cultural (e.g. levels of compliances related to religious rules) profiles of the population, time dependent spousal age gap trends (i.e. homogamy for first marriage and heterogamy for remarried) are likely to be more evident in Flemish Brabant and Brussels than in West Flanders, because of their socio-economic and cultural profile, characterized as more industrialized, urbanized and secularized (H1.2).

(2) Spousal age gaps and age at marriage trends are largely determined by broad societal processes, including industrialization, modernization and to some extent secularization. This means age homogamy trend is expected to be strongest in cities but least in religious municipalities where church

control is stronger. We do not expect the same for high order marriages (H2.2). Among individual characteristics, social class, age at marriage as well as literacy and religious status, are expected to play a significant role on the likelihood of age homogamy. For first marriages, farmers, higher age, literacy and religious ones are expected to follow the least for age homogamy. For remarriages, we do not expect these effects because of their preferences on age heterogamy than age homogamy among the remarried (H2.2).

## 3. Data, measures and methods

#### Data

Three sub-samples of individual civil marriage registers of West Flanders (N=425,811) in 257 municipalities, Flemish Brabant and Brussels (N=600,240) in 276 municipalities are used in our analysis. We restrict our analysis to the historical period of 1800-1913 and exclude records when marriage and birth dates are not available.

## Measures

### Individual level dependent variable

Multinomial outcome variable is used in our models: 1=age homogamy; 2=age heterogamy with older bride; 3=age heterogamy with older bridegroom. Age differences are calculated on the basis of information on birth and marriage dates for brides and bridegrooms. When information on dates of births are missing, ages at marriage for brides and bridegrooms recorded in the original source (civil marriage register), are used to obtain the value of spousal age gaps.

## Individual level independent variables

Several socio-economic and demographic covariates are included in the model: (i) literacy; (ii) migrant status; (iii) social class; and (iv) age at marriage. The former two items are coded into dummies, and the last two items into categorical ones respectively. The third item of social class is operationalized from the occupation titles in the original source, transformed into HISCO (2002) and then to HISCLASS recoded into 5 categories<sup>1</sup> and 2 categories of missing (i.e. occupation cannot be identified or no

<sup>&</sup>lt;sup>1</sup> HISCLASS contains: 1) Higher managers; 2) Higher professionals; 3) Lower managers; 4) Lower professionals and clerical and sales personnel; 5) Lower clerical and sales personnel; 6) Foremen; 7) Medium skilled workers; 8) Farmers and fishermen; 9) Lower skilled workers; 10) Lower skilled farm workers; 11) Unskilled workers; and 12) Unskilled farm workers. These 12 classes are grouped into

information at all). The last item includes age at marriage, categorized into 5 different age groups (1. below 20; 2. 20-29; 3. 30-39; 4. 40-49; and 5. 50 and above) and missing values. Religious levels, are studied through timing of marriage (Engelen 2017, Lesthaeghe 1989, Lesthaeghe & Lopez-Gay 2013, Matsuo & Matthijs 2018) as to whether marriage dates fall under the respective Lent and Advent period or not. For the remarried sample, we control for the outcome of previous marriage (i.e. widowhood or divource) and examine if the marriage order was the first for either the bride or bridegroom.

### 4. Expected results

We expect our findings to align with our aforementioned hypotheses showing different spousal age patterns and its determinants across marriage order and by gender. We first of all anticipate gradual declines of age heterogamy to an increase of age homogamy patterns in first marriages during the second half of 19<sup>th</sup> century. We however do not expect this trend for higher order marriages. We consider that age homogamy is driven by a decline of proportions of older bridegrooms than older brides. We assume that such declines of spousal age gaps for first marriages are more observed in Brussels and Flemish Brabant than in West Flanders, given the socio-economic and cultural characteristics of the population. Among individual characteristics, social class and age at marriage as well as literacy and religious status, are expected to play a significant role on the likelihood of age homogamy. Among newlywed couples, farmers (i.e. to a larger extent for bridegrooms than for brides), higher age, literacy and religious ones are expected to follow the least the age homogamy trend. For high order marriages, these expectations do not hold as lower age homogamy trends are expected. Due to the lack of clear empirical evidence on gender gaps on age homogamy or heterogamy trends, gender differences are not entirely known. The purpose of the paper is to investigate this aspect.

Through this study, we aim to reflect on measures of spousal age gaps in first and high order marriages as a proxy for gender equality. The study period (the long 19<sup>th</sup> century) is important as spousal age gap trends changed substantially, although these findings during the 20<sup>th</sup> century is less conclusive about these patterns because of context differences (Berardo et al 1993, Kolk 2015, Ni Bhrolchàin 2005). The implications of spousal age gaps are many. They have direct influence on fertility, health and mortality patterns (Gellatly & Stőrmer 2017, Rotering & Bras 2019), shaping the life course of own and following generations.

five sub-classes: 1.Higher occupations: (1-5); 2.Skilled workers (6-7); 3. Farmers (8); 4. Lower skilled workers (9-10); 5. Unskilled workers (11-13).

## 5. References

- Berardo, F. M., J. Appel & D. H. Berardo (1993). Age dissimilar marriages: review and assessment. *Journal of Ageing Studies.* 7, 1, 93-106.
- Bergstrom, T.C. & M. Bagnoli (1993). Courtship as a waiting game. *Journal of Political Economy*. 101, 185-202.
- Bozon, M. (1991). Women and the age gap between spouses: an accepted domination? *Population.* 3, 113-48.
- Buss, D. M. (1989). Sex differences in human mate preferences: evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*. 12, 1-49.
- Engelen, T. A. P. Wolf, eds (2005). *Marriage and the family in Eurasia: Perspectives on the Hajnal hypothesis*. Aksant Academic Publishers, Amsterdam.
- Engelen, T. (2017). What the seasons tells us: the monthly movement of marriages, economic modernization and secularization in the Netherlands, 1810-1940. *Historical Life Course Studies*. 4, 165-80.
- Gellatly, C. & C. Störmer (2017). How does marriage affect length of life? Analysis of a French historical dataset from an evolutionary perspective. *Evolution & Human Behaviour*. 38, 536-45.
- Gustafson, P. & U. Fransson (2015). Age differences between spouses: sociodemographic variation and selection. *Marriage and Family Review*. 51, 7, 610-32.
- Hajnal, J. (1965). European marriage patterns. Ed., D.V. Glass, *Population in History: essays in historical demography*. Chicago, Aldine Publishing company, 101-43.
- Historical sample of the Netherlands (HSN) https://iisg.amsterdam/en/data/data-websites/historyof-work
- Kolk, M. (2015). Differences in unions: continuity and divergence among Swedish couples between 1932 and 2007. *European Journal of Population*. 31, 4, 365-82.
- Lesthaeghe, R. (1977). *The decline of Belgian Fertility, 1800-1970*. Princeton, NJ: Princeton University Press.
- Lesthaeghe, R. (1989). Motivation and legitimation: living conditions, social control and the reproductive regimes in Belgium and France from the 16<sup>th</sup> through the 19<sup>th</sup> century. *Working paper*. 1989-2, Brussels, Interuniversity Programme in Demography.
- Lesthaeghe, R. & Lopez-Gay, A. (2013). Spatial continuities and discontinuities in two successive demographic transitions: Spain and Belgium, 1880-2010. *Demographic Research*. 28, 4, 77-136.

- Matsuo, H. & K. Matthijs (2016). Women's age at last childbearing and its determinants: a case study of Antwerp (Flanders, Belgium) on the basis of the multi-source COR\* historical sample. *The History of the Family*. 21, 2, 175-94.
- Matsuo, H. & K. Matthijs (2018). The role of secularization on marriage and conception seasonality patterns: a study of Antwerp (Flanders, Belgium) in the second half of the nineteenth and the early twentieth century. *Journal of Family History*. 43, 4, 335-56.
- Matsuo, H. & K. Matthijs (2019). Secularization and evolution of spousal age gap trends in first marriages: empirical evidence from two provinces in Flanders (Belgium) from early 19<sup>th</sup> to early 20<sup>th</sup> century. *Paper* presented for the European Historical Demography Conference, (ESHD), Pecs, 26-29 June 2019.
- Matthijs, K. (2002). Mimetic appetite for marriage in nineteenth-century Flanders: gender disadvantage as an incentive for social change. *Journal of Family History*. 27, 2, 101-27.
- Matthijs, K. (2003). Demographic and sociological indicators of privatization of marriage in the 19th century in Flanders. *European Journal of Population*. 19, 375-412.
- Ni Bhrolchàin, M. (2005). The age difference at marriage in England and Wales: a century of patterns and trends. *Population Trends*. 120, 7-14.
- Rotering, P. & H. Bras (2019). The age difference between spouses and reproduction in 19<sup>th</sup> century Sweden. *Demographic Research.* 41, 37, 1059-90.
- Van de Putte et al. (2009). The rise of age homogamy in 19<sup>th</sup> century Western Europe. *Journal of Marriage and Family.* 71, 5, 1234-53.
- Van Leeuwen, M. H.D., I. Maas & A. Miles (2002). *HISCO Historical International Standard Classification of Occupations.* Leuven, Leuven University Press.
- Van Poppel et al (2001). Love, necessity and opportunity: changing patterns of marital age homogamy in the Netherlands, 1850-1993. *Population Studies*. 55, 1, 1-13.